

# Exhibit 27

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
MIDLAND/ODESSA DIVISION**

VIRTAMOVE, CORP.,  
Plaintiff,

v.

AMAZON.COM, INC.;  
AMAZON.COM SERVICES LLC; AND  
AMAZON WEB SERVICES, INC.,

Defendant.

Case No. 7:24-CV-00030-ADA-DTG

**AMAZON'S INITIAL INVALIDITY CONTENTIONS**

Pursuant to the Court's Order Governing Proceedings (OGP) 4.4 – Patent Cases (Dkt. 51), Defendants Amazon.com, Inc., Amazon.com Services LLC, and Amazon Web Services, Inc. (collectively “Amazon”) hereby provide their Initial Invalidity Contentions regarding U.S. Patent Nos. 7,519,814 and 7,784,058 (collectively, “the Patents-in-Suit”).

**I. RESERVATION OF RIGHTS**

Defendants reserve the right to supplement or otherwise amend these Invalidity Contentions. The information and documents that Defendants produce herewith are based on information currently available to Defendants and subject to further revision. For example, Plaintiff (or its counsel) may be in possession of prior art that Defendants may rely on. Because discovery on the merits has not begun, Defendants reserve the right to amend and/or supplement the information provided herein, including identifying and relying on additional references, should further search and analysis yield additional information or references, consistent with the Federal Rules of Civil Procedure.

Defendants also reserve the right to revise their contentions concerning the invalidity of the Asserted Claims, which may change depending upon the Court's construction of the Asserted Claims, any findings as to the priority date of the Asserted Claims, and/or positions that Plaintiff or its expert witness(es) may take concerning claim construction, infringement, and/or invalidity issues. Prior art not included in this disclosure, whether known or not known to Defendants, may become relevant. In particular, Defendants are currently unaware of the extent, if any, to which Plaintiff will contend that limitations of the Asserted Claims are not disclosed in the prior art identified by Defendants, or will contend that any of the identified references do not qualify as prior art. To the extent that such an issue arises, Defendants reserve the right to identify other components or references that would have made the addition of the allegedly missing limitation to the disclosed device or method obvious. The identification of any patent or patent publication shall be deemed to include any counterpart patent or application filed, published, or issued anywhere in the world.

Defendants' claim charts cite particular teachings and disclosures of the prior art as applied to features of the Asserted Claims. However, persons having ordinary skill in the art generally may view an item of prior art in the context of other publications, literature, products, and understanding. As such, Defendants reserve the right to rely on uncited portions of the prior art references and on other publications and expert testimony to establish the state of the art and to aid in understanding and interpreting the cited portions, as providing context thereto, showing reasons to combine references, and as additional evidence that the prior art discloses a claim limitation. Defendants further reserve the right to rely on uncited portions of the prior art references, other publications, and testimony to establish bases for combinations of certain cited references that render the Asserted Claims obvious. Further, for any combination, Defendants reserve the right to rely

on information generally known to those skilled in the art and/or common sense. The references discussed in the claim charts may disclose the elements of the Asserted Claims explicitly and/or inherently, and/or they may be relied upon to show the state of the art at the relevant time.

Pursuant to the Court's OGP, Defendants hereby provide disclosures and related documents pertaining to the Asserted Claims as identified by Plaintiff in its Infringement Contentions, and Defendants have not attempted to address invalidity or prior art for any of the claims that were not asserted because those claims are not at issue in the present matter. Further, should Plaintiff amend its Infringement Contentions to assert additional or alternative claims, theories of infringement, or accused products, Defendants reserve the right to modify, amend, or supplement these Invalidity Contentions.

The Court has not yet construed any claims of the Patents-in-Suit. As such, Defendants' Invalidity Contentions are based, in part, on its present understanding of the Asserted Claims of the Patents-in-Suit and any apparent constructions contained within Plaintiff's Infringement Contentions, whether or not Defendants agree with such claim constructions. Plaintiff's Infringement Contentions are vague and fail to explain how most of the claim limitations are satisfied. As such, Plaintiff's contentions have left Defendants unable to understand fully how the claims are being interpreted by Plaintiff, what the claims are alleged to cover, how Plaintiff is asserting those claims against Defendants, and thus what prior art is relevant to the validity of the Patents-in-suit. Defendants' Invalidity Contentions should not be taken as a suggestion that Plaintiff's reading of the patent claims is correct. Indeed, the contrary is true. It appears that Plaintiff is reading the claims in a manner that is unsupportable in view of the language of the claims, the specification, and the prosecution histories of the Patents-in-suit.

Throughout the attached Exhibits, Defendants provide exemplary citations indicating where the cited references disclose subject matter recited in the preambles of the claims, without regard to whether the preambles are limitations of the claims. Defendants do not take any position at this time regarding whether or not the preambles of the Asserted Claims are limitations, and will address this topic, if necessary, during the scheduled claim construction process.

Nothing stated herein should be construed as an admission or a waiver of any particular construction of any claim term. Moreover, the use of terms herein from the Patents-in-Suit should not be understood to mean that such terms as used in the Patents-in-Suit or claims thereof are definite or otherwise comply with pre-AIA 35 U.S.C. § 112. To the contrary, as set forth below, Defendants contend that all of the Asserted Claims are invalid pursuant to 35 U.S.C. § 101 and/or pre-AIA 35 U.S.C. § 112. Likewise, the use of terms herein from the Patents-in-Suit should not be understood to suggest or imply a common, usual, ordinary, customary, plain, or accepted meaning in the art for any such term.

In the Infringement Contentions served by Plaintiff on July 11, 2024, Plaintiff alleged that the asserted claims of the '814 patent are entitled to a priority date at least as early as September 15, 2003 and the asserted claims of the '058 patent are entitled to a priority date at least as early as September 22, 2003. Because fact discovery has not commenced, Defendants have relied on those assertions for the purposes of identifying relevant prior art in these Invalidity Contentions, but Defendants do not concede that those priority dates are accurate. Defendants reserve the right to supplement these Invalidity Contentions should a different priority date apply. In addition, Defendants also reserve the right to supplement these Invalidity Contentions should Plaintiff subsequently attempt to amend its Infringement Contentions in any way, or to otherwise modify its infringement allegations or seek to establish an earlier date of invention.

## **II. IDENTIFICATION OF ASSERTED CLAIMS**

In its Infringement Contentions, Plaintiff asserted that Defendants infringe the claims listed in the chart below (“Asserted Claims”).

<b>Patent-in-suit</b>	<b>Asserted Claims</b>
'814 Patent	Claims 1, 2, 4, 6, 8, 9, 10, 13, and 14
'058 Patent	Claims 1–5, 10, and 18

## **III. INVALIDITY UNDER PRE-AIA 35 U.S.C. §§ 102 AND 103**

The Asserted Claims are invalid as anticipated by the prior art under various subsections of pre-AIA 35 U.S.C. § 102 and/or as obvious in view of the prior art under pre-AIA 35 U.S.C. § 103. The exhibits provided herewith set forth how the prior art anticipates either expressly or inherently, and/or renders obvious, each asserted claim. These exhibits also include citations to relevant portions of the identified prior art references.

Moreover, Defendants may rely on uncited portions of the identified prior art, other prior art (some of which is specifically identified below), references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the Patents-in-Suit), and/or expert testimony to provide context to or aid in establishing the state of the art and understanding the cited portions of the identified prior art or as showing reasons why one of skill in the art would have combined references.

Where Defendants cite a particular drawing or figure in the accompanying charts, the citation encompasses the description of the drawing or figure, as well as any text associated with the drawing or figure (even if the associated text is not itself expressly cited). Similarly, where Defendants cite particular text concerning a drawing or figure in the accompanying charts, the citation encompasses that drawing or figure (even if the associated drawing or figure is not expressly cited).

Certain pieces of identified prior art inherently disclose features of the Asserted Claims. Defendants may rely on inherency to demonstrate the invalidity of the Asserted Claims. Moreover, certain prior art references and solutions may inherently anticipate certain features of the Asserted Claims as construed by Plaintiff. Defendants may rely on cited or uncited portions of the prior art, other documents, and expert testimony to establish the inherency of certain features of the prior art to invalidate the Asserted Claims. Defendants also may rely on any reference identified in these Invalidity Contentions or any other reference to prove that the references are enabling, to provide a reason to combine the references, as an indication of the state of the art, or to explain the meaning of a term used in any reference.

Defendants incorporate by reference all prior art and the invalidity grounds identified in any *inter partes* review petitions filed against the Patents-in-Suit. Defendants also reserve the right to rely on the prior art identified by Google LLC in its Invalidity Contentions in Case No. 7:24-cv-00033 (W.D. Tex.) or by International Business Machines and Hewlett Packard Enterprise in their Invalidity Contentions in Case No. 2:24-cv-00093 (E.D. Tex.). Defendants reserve the right to rely on such prior art for anticipation, obviousness, and to provide context to or aid in establishing the state of the art and understanding the cited portions of the identified prior art or as showing reasons why one of skill in the art would have combined references.

#### A. Background

Defendants contend that all Asserted Claims are anticipated or obvious under pre-AIA 35 U.S.C. §§ 102 and/or 103 in view of the prior art and/or the knowledge of a person having ordinary skill in the art. Defendants reserve the right to rely on any identified piece of prior art individually charted to anticipate all of the Asserted Claims and/or to render obvious all of the Asserted Claims in view of the knowledge of one having ordinary skill in the art. Defendants further reserve the right to rely on any identified piece of prior art individually charted to render obvious all of the

Asserted Claims when considered in combination with other charted references identified herein and the knowledge of a person of ordinary skill in the art. As required by 35 U.S.C. § 282(c), these contentions also place Plaintiff on notice of the prior art on which defendants may rely at trial to show invalidity.

The exhibits to these contentions specifically point out where the prior art discloses, either expressly or inherently, and/or renders obvious each element of the Asserted Claims. Providing citations to portions of the prior art references should not be construed to mean that other portions of the prior art references are not also relevant to the validity of the claims. Other passages of the identified prior art may additionally disclose, either expressly or inherently, information relevant to the validity of one or more elements of the Asserted Claims. Moreover, Defendants reserve the right to rely on any evidence, including expert testimony, to provide context to or aid in understanding the cited portions of the identified prior art.

As noted above, Defendants are not yet aware of how Plaintiff will ultimately contend the Asserted Claims should be construed. Depending on Plaintiff's assertions on claim construction, different ones of the identified references may be of greater or lesser relevance, and different combinations of these references may be implicated. In view of Defendants' uncertainty regarding how Plaintiff will contend the claims apply, the discussion of the different references in the exhibits may reflect alternative applications of the prior art against the Asserted Claims.

For all prior art combinations addressed herein, a reason or motivation to combine the prior art includes that each prior art reference is either in the field of computer software / architecture or reasonably pertinent to a problem faced by skilled artisans in that field, and one of ordinary skill in the art tasked with implementing such a system in accordance with the Asserted Claims would have been motivated to investigate the various existing systems, patents, and other publications,

including those identified herein, to address his or her particular needs. The combinations and modifications of the prior art to invalidate the Asserted Claims would have arisen from ordinary innovation, ordinary skill, or common sense and/or would have been obvious to try or otherwise predictable in the field to which the patents pertain.

A person having ordinary skill in the art would have had a reason to combine the prior art based on the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons having ordinary skill in the art. For example, each of the prior art references address virtualization. In addressing the problems of virtualization, one of ordinary skill in the art would have been motivated to combine the teachings of research in this field. Additionally, some prior art references cite or discuss other prior art references, illustrating the close technical relationship among the prior art. To the extent that any prior art reference refers to or discusses another prior art reference, either expressly or inherently, it would have been obvious to combine those references for at least that reason.

Design incentives and other market forces would have prompted combinations and modifications of the prior art. Design needs and market pressures provide ample reason to combine prior art elements in the manner combined. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 401 (2007). Defendants reserve the right to supplement these disclosures if such evidence of design needs and/or market pressures become apparent through discovery in this case.

Moreover, the Asserted Claims also would have been obvious because they merely arrange or combine old elements, with each performing the same function that had been known, to perform and yield no more than what one having ordinary skill in the art would expect from such an arrangement. Because there were a finite number of predictable solutions in the art with regard to any claimed feature, it would have been obvious to a person of ordinary skill in the art to

pursue the known options. A person skilled in the art would have been familiar with all the claim elements that the patentees used to distinguish the prior art during prosecution. The identified prior art references merely use those familiar elements for their primary or well-known purposes and in a manner well within the ordinary level of skill in the art. Accordingly, common sense and the knowledge of one having ordinary skill in the art render the Asserted Claims invalid.

Although certain prior art references are listed as evidence for particular prior art systems, certain of those pieces of prior art describe, relate to, and are evidence of other prior art systems that also render the Asserted Claims invalid. Defendants reserve the right to rely on any identified prior art reference as evidence supporting any of those other prior art solutions.

To the extent that Plaintiff argues that a prior art reference does not disclose an element or challenges a combination of prior art identified by Defendants, Defendants reserve the right to supplement these Invalidity Contentions to address that argument or challenge. Defendants may rely on any charted combinations of prior art disclosed in these Invalidity Contentions, the knowledge of those skilled in the art, and/or other prior art to show that it would have been obvious to include the allegedly missing element or to further buttress the reasons to combine the prior art.

In addition to the prior art identified in these Invalidity Contentions, Defendants also may rely on the “Background” of the invention and other relevant portions of the Patents-in-Suit, the prosecution histories of the Patents-in-Suit (including the references cited therein) and the prosecution histories of related patents including the disclosures and admissions therein, fact and expert testimony about the prior art, and publications of the alleged inventors of the patent, to show that the Asserted Claims are anticipated and/or rendered obvious under pre-AIA 35 U.S.C. §§ 102 and 103.

In addition to the prior art addressed in the claim chart exhibits, additional prior art references may be produced concurrently with these Invalidity Contentions. This additional art may be relevant to the validity of the Asserted Claims depending on the positions taken by Plaintiff, and in any event may be referenced to show the state and evolution of technology in these fields. Accordingly, for the foregoing reasons, Defendants reserve the right to supplement these Invalidity Contentions with specific claim charts and obviousness combinations with the additional references based on the allegations and contentions asserted by Plaintiff as these allegations and corresponding constructions of the claims become clear.

These Invalidity Contentions are based on Defendants' current knowledge of the Patents-in-Suit, the prior art, and Plaintiff's Infringement Contentions. Defendants' investigation regarding invalidity of the Asserted Claims over the prior art and regarding other grounds of invalidity, including those based on patentable subject matter under 35 U.S.C. § 101, public use or on-sale bar under pre-AIA 35 U.S.C. § 102(b), anticipation under pre-AIA 35 U.S.C. § 102, obviousness under pre-AIA 35 U.S.C. § 103, and failure to comply with pre-AIA 35 U.S.C. § 112, is ongoing. Defendants specifically reserve the right to modify, amend, or supplement these disclosures.

## B. Patents and Published Patent Applications

Defendants identify the following patents and published patent applications that anticipate the Asserted Claims and/or render the Asserted Claims obvious:

### '814 Patent

1. US Patent 7,461,080 ("Tucker '080")
2. US Patent 7,437,556 ("Tucker '556")
3. US Provisional App. No. 60/469,558 ("Tucker Provisional")
4. US Pub. No. 2003/0014466 ("Berger")
5. US Pub. No. 2002/0194496 (issued as US 7,865,876) ("Griffin")

6. U.S. Pub. No. 2002/0124072 (issued as US 7,099,948) (“**Tomasov**”)
7. U.S. Pub. No. 2002/0174215 (“**Schaefer**”)

’058 Patent

1. US Patent 6,976,037 (“**D’Souza**”)
2. US Patent 6,529,985 (“**Deianov**”)

**C. Other Publications**

Defendants identify the following non-patent publications that anticipate the Asserted Claims and/or render the Asserted Claims obvious. Each publication is identified by its title, date of publication, and where feasible, author and publisher.

’814 Patent

1. Linux VServer Documentation (2002) (“**Gélinas**”);
2. Osman, Steven, Dinesh Subhraveti, Gong Su, and Jason Nieh. “The design and implementation of Zap: A system for migrating computing environments.” *ACM SIGOPS Operating Systems Review* 36, no. SI (2002): 361-376. (“**Osman**”);
3. Schmidt, Brian. “Supporting Ubiquitous Computing with Stateless Consoles and Computation Caches.” Stanford Ph.D. Dissertation (2000) (“**Schmidt**”).

’058 Patent

1. Eggert, P. R., & Parker, D. S. (1993). File systems in user space. In *USENIX Winter 1993 Conference* (“**Eggert**”);
2. Ely, David, Stefan Savage, and David Wetherall. “Alpine: A User-Level Infrastructure for Network Protocol Development.” In *3rd USENIX Symposium on Internet Technologies and Systems (USITS 01)*. 2001. (“**Ely**”);

3. Gingell, Robert A., Meng Lee, Xuong T. Dang, and Mary S. Weeks. “Shared libraries in SunOS.” *AUUGN* 8, no. 5 (1987): 112 (“**Gingell**”);
4. Levine, John R. *Linkers and Loaders*. Morgan Kaufmann, 2000 (“**Levine**”);
5. Maeda, Chris, and Brian N. Bershad. “Protocol service decomposition for high-performance networking.” In Proceedings of the fourteenth ACM symposium on Operating systems principles, pp. 244-255. 1993. (“**Maeda**”);
6. Thekkath, Chandramohan A., Thu D. Nguyen, Evelyn Moy, and Edward D. Ladowska. “Implementing network protocols at user level.” In Conference proceedings on Communications architectures, protocols and applications, pp. 64-73. 1993. (“**Thekkath**”);
7. Ely, David, et al., “Alpine: A User-Level Infrastructure for Network Protocol Development.” *3<sup>rd</sup> USENIX Symposium on Internet Techs. and Systems (USITS '01)*. 2001. Available at [https://www.usenix.org/legacy/publications/library/proceedings/usits01/full\\_papers/ely/alpineUs.pdf](https://www.usenix.org/legacy/publications/library/proceedings/usits01/full_papers/ely/alpineUs.pdf) (“**Ely Presentation**”).

#### D. Prior Art Products and Systems

Defendants identify below the following prior art products and systems that may anticipate the Asserted Claims and/or render the Asserted Claims obvious. On information and belief, the products and systems identified below were publicly disclosed, used, sold, or offered for sale in the United States before the priority date of the Asserted Claims. Defendants’ investigation of prior art systems is ongoing. Defendants’ further investigation and/or subsequent discovery from Plaintiff and third parties with knowledge regarding these prior art systems may reveal additional relevant prior art products and systems and/or further information regarding the products and systems identified below.

1. Linux-VServer, in public use or on sale in the United States by 2001, as evidenced by the references below:
  - a. Gélinas;
  - b. <https://lwn.net/2001/1018/a/virtual-servers.php3>;
  - c. <https://slashdot.org/index2.pl?fhfilter=jacques+gelinas>.
2. Solaris Zones, conceived no later than 2002 and diligently reduced to practice, as evidenced by the references below:
  - a. Tucker Provisional;
  - b. Tucker '080 & Tucker '556;
  - c. Sun Microsystem's Solaris 10 Operating Environment software.
3. Thinstall, publicly available by 2002 as evidenced by:
  - a. <https://web.archive.org/web/20021004121632/http://thinstall.com/about/>
4. Virtuozzo, publicly available by 2002 as evidenced by:
  - a. <https://www.linuxjournal.com/article/5796>
5. User-Mode Linux, publicly available by 2000 as evidenced by:
  - a. <https://web.archive.org/web/20000816095307/http://user-mode-linux.sourceforge.net/index.html>
6. Alpine, publicly available by 2001 as evidenced by:
  - a. Ely
  - b. Ely Presentation
7. Alpine4Linux, publicly available by August 2003 as evidenced by:
  - a. [https://web.archive.org/web/20030816054039/http://www.vzave-nue.net/~neelnatu/alpine4linux/differences\\_from\\_alpine4bsd.txt](https://web.archive.org/web/20030816054039/http://www.vzave-nue.net/~neelnatu/alpine4linux/differences_from_alpine4bsd.txt)

8. Jails in FreeBSD, publicly available by 2000 as evidenced by:
  - a. <https://web.archive.org/web/20000511211421/http://www.freebsd.org/releases/4.0R/announce.html>
  - b. Kamp, Poul-Henning, and Robert NM Watson. "Jails: Confining the omnipotent root." In *Proceedings of the 2nd International SANE Conference*, vol. 43, p. 116. 2000.
9. IBM Storage Tank, publicly available by January 23, 2002 as evidenced by:
  - a. Pease, D., R. M. Rees, W. C. Hineman, D. L. Plantenberg, R. A. Becker-Szendy, R. Ananthanarayanan, M. Sivan-Zimet, and C. J. Sullivan. "IBM Storage Tank." *1st USENIX File and Storage Technologies Conference*. 2002.
10. Softricity System Guard, publicly available before June 2003, as evidenced by:
  - a. Bruce Lindsay, "Pupils pry, schools buy" (Network World Canada, June 13, 2003).
11. VMTCP user-level implementation, public by 1987 as evidenced by:
  - a. Mogul, Jeffrey, Richard Rashid, and Michael Accetta. "The packer filter: an efficient mechanism for user-level network code." *ACM SIGOPS Operating Systems Review* 21, no. 5 (1987): 39-51.
12. Mac OS X, publicly available or on sale by April, 2001, as evidenced by:
  - a. <https://www.apple.com/newsroom/2001/03/21Mac-OS-X-Hits-Stores-This-Weekend/>
  - b. <https://arstechnica.com/gadgets/2001/04/macos-x/>

Defendants have not yet had an opportunity to conduct discovery from persons and companies with knowledge regarding these prior art products and systems. Defendants reserve the right to supplement or otherwise amend these Invalidity Contentions in light of additional information regarding the prior art products and systems identified above.

#### E. Claim Charts

Defendants provide the claim charts identified in the table below as exhibits to these contentions:

<b>Claim Charts for '814 Patent</b>	
Exhibit	Prior Art
A-1	Tucker '080
A-2	Tucker '556
A-3	Tucker Provisional
A-4	Berger
A-5	Griffin
A-6	Tomasov
A-7	Schaefer
A-8	Gélinas
A-9	Osman
A-10	Schmidt
A-11	Thinstall
A-12	Virtuozzo
A-13	IBM Storage Tank

<b>Claim Charts for '058 Patent</b>	
Exhibit	Prior Art
B-1	D'Souza
B-2	Deianov
B-3	Eggert
B-4	Ely
B-5	Gingell
B-6	Levine
B-7	Maeda
B-8	Thekkath
B-9	User-Mode Linux
B-10	FreeBSD
B-11	Thinstall
B-12	Virtuozzo
B-13	Ely Presentation

#### **IV. INVALIDITY UNDER 35 U.S.C. § 101**

All of the asserted claims of all of the Patents-in-Suit are invalid under 35 U.S.C. § 101 because they are directed to abstract ideas and recite no inventive concept. Defendants also incorporate by reference any ground of invalidity under § 101 that Google LLC raised in its Motions to Dismiss or Invalidity Contentions in Case No. 7:24-cv-00033 (W.D. Tex.) or that is raised by International Business Machines and Hewlett Packard Enterprise in their Invalidity Contentions in Case No. 2:24-cv-00093 (E.D. Tex.).

##### **A. Identification of Abstract Ideas**

The '814 patent is directed to the abstract idea of storing multiple versions of reference material in separate locations and using the appropriate version for each location. Although the claims recite this idea in the context of computer system files, humans use the same idea with paper reference material. All limitations in the '814 patent claims that merely collect, analyze, or present information are abstract and add nothing significant to this idea.

The '058 patent claims recite a shared library containing multiple copies of “critical system elements” for use by different applications. These claims are directed to the abstract idea of replicating information so it can be accessed in multiple contexts by multiple users. All limitations in the '058 patent claims that merely collect, analyze, or present information are abstract and add nothing significant to this idea.

##### **B. Identification of Well-Understood, Routine, Conventional Elements**

All elements of the '814 patent claims beyond that patent's identified abstract idea are well-understood, routine, and conventional. For the asserted claims of the '814 patent, the conventional elements include servers, processors, operating systems, kernels, system files, applications, services, tasks, containers, root file systems, execution files, IP addresses, host names, MAC ad-

resses, hardware resource usage, containerized applications, process history, and container creation. Indeed, every element of the asserted patent claims (including the abstract elements) was well-known, routine, and conventional. The patent claims nothing inventive.

All elements of the '058 patent claims beyond that patent's identified abstract idea are also well-understood, routine, and conventional. For the asserted claims of the '058 patent, the conventional elements include the processor, operating system, kernel, kernel mode, "OSCSEs," shared library, "SLCSEs" (including as functional replicas of "OSCSEs"), applications, user mode, system calls, kernel modules, and linking "SLCSEs" to applications. Indeed, every element of the patent claims (including the abstract elements) was well-known, routine, and conventional. The patent claims nothing inventive.

**C. Prior Art for the Contention that Elements Are Well-Understood, Routine, or Conventional.**

Amazon will rely on the specifications of the Patents-in-Suit themselves to show that any non-abstract elements were well-understood, routine, or conventional. Amazon may also rely on the testimony of its own technical experts and admissions from Plaintiff or Plaintiff's experts. Amazon may also rely on any of the prior art identified herein and the prior art that was cited during the prosecution of the Patents-in-Suit (including any *inter partes* review proceedings). Amazon may also rely on the testimony of named inventor Donn Rochette, and other information obtained during discovery, to establish what was well-known, routine, and conventional.

**V. INVALIDITY UNDER PRE-AIA 35 U.S.C. § 112**

Pursuant to the Court's OGP, Defendants hereby identify limitations that are indefinite or lack written description under pre-AIA 35 U.S.C. § 112. Defendants also reserve the right to rely on any terms identified by Google LLC in its Invalidity Contentions in Case No. 7:24-cv-00033 (W.D. Tex.) and any terms that are identified by International Business Machines and Hewlett

Packard Enterprise in their Invalidity Contentions in Case No. 2:24-cv-00093 (E.D. Tex.). Defendants reserve the right to supplement these Invalidity Contentions to identify further bases for invalidity under pre-AIA 35 U.S.C. § 112. These contentions shall not be construed as an admission that any claim construction advanced by Defendants in this case is in any way inconsistent, flawed or erroneous. Nor should these contentions prevent Defendants from advancing claim construction and/or non-infringement positions in lieu of, or in addition to, invalidity positions. Further, these contentions shall not be construed as an admission of or acquiescence to Plaintiff's purported construction of the claim language or of other positions advanced by Plaintiff during the course of this litigation.

Defendants' Invalidity Contentions under pre-AIA 35 U.S.C. § 112 may depend, in part, on the Court's claim construction, as well as Plaintiff's asserted claim scope. Consequently, Defendants only identify herein the issues under pre-AIA 35 U.S.C. § 112 of which they are presently aware. For any claim identified below as containing an invalid limitation, the identified claim is invalid as well as all claims that depend therefrom.

#### **D. Invalidity under pre-AIA 35 U.S.C. § 112(1) – Lack of Written Description**

The first paragraph of pre-AIA 35 U.S.C. § 112 requires a patent specification to contain “a written description of the invention.” The written description “must do more than merely disclose that which would render the claimed invention obvious.” *ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368, 1377 (Fed. Cir. 2009). The written description must “clearly allow persons of ordinary skill in the art to recognize that the inventor invented what is claimed” by the time of the application filing date. *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (*en banc*). Thus, a written description is inadequate where the claim in question exceeds

the scope of what the patent discloses by, for example, omitting an attribute of the described invention from the limitations, thereby over-extending the reach of the claim. *ICU*, 558 F.3d at 1377-78.

At least in view of Plaintiff's apparent construction of the claims in its Infringement Contentions, many Asserted Claims are invalid because the specification as filed does not contain a written description of the claimed inventions. In particular, the patent disclosure would not lead a person of ordinary skill in the art to recognize that the named inventors had possession of the purported inventions as claimed, either as a whole or in view of specific elements (examples of which are given below).

Many Asserted Claims fail to satisfy the written description requirement of pre-AIA 35 U.S.C. § 112 ¶ 1 because the disclosure fails to show that the inventors were in possession of the full scope of the claimed invention. In particular, the terms listed below do not satisfy the written description requirement.

- '814 Patent:
  - Claim 1: “plurality of servers with operating systems that differ, operating in disparate computing environments”
  - Claim 4: “pre-identifying applications and system files required for association with the one or more containers prior to said storing step”
  - Claim 10: “when an application residing within a container is executed, said application has no access ... to system files within the operating system during execution thereof”
  - Claim 13: “tracking statistics”
  - Claim 14: “without overwriting the associated system files”

- '058 Patent:
  - Claim 17: “otherwise execute without interaction from the operating system kernel”

#### E. **Invalidity under pre-AIA 35 U.S.C. § 112(2) – Indefiniteness**

The second paragraph of pre-AIA 35 U.S.C. § 112 requires that a patent claim “particularly point out and distinctly claim[] the subject matter which the applicant regards as his invention.” Claim terms that fail to inform those of ordinary skill in the art as to their scope with reasonable certainty fail to satisfy the definiteness requirement. *See Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). The following claim limitations are indefinite for failing to inform, with reasonable certainty, those skilled in the art about the scope of the invention, as required by paragraph 2 of pre-AIA 35 U.S.C. §112. *See id.*

- '814 patent:
  - Claim 1:
    - “disparate computing environments”
    - “secure … applications”
    - “applications related to a service”
    - “task related to the service”
    - “residing permanently”
    - “secure environment”
    - “secure containers”
    - “application software cannot be shared”
  - Claim 4: “pre-identifying applications and system files required for association with the one or more containers”

- Claim 6: “unique associated identity”
- '058 patent:
  - Claim 1:
    - “critical system elements”
    - “functional replicas”
    - “without being shared with other of the plurality of software applications”

The following claims are invalid as indefinite because they mix statutory classes of subject matter and thus a person of ordinary skill would not be able to ascertain when infringement occurs. *See IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005); *Rembrandt Data Techs., LP v. AOL, LLC*, 641 F.3d 1331, 1339 (Fed. Cir. 2011); *In re Katz Interactive Call Processing Patent Litigation*, 639 F.3d 1303, 1318 (Fed. Cir. 2011).

- '814 patent: All asserted claims.
- '058 patent: All asserted claims.

## **VI. ACCOMPANYING DOCUMENT PRODUCTION**

Pursuant to the Court’s OGP, Defendants are producing or making available for inspection (1) all prior art referenced in the invalidity contentions, and (2) technical documents, including software where applicable, sufficient to show the operation of the accused product(s). The prior art is produced at AMZ\_VMC\_00000244 - AMZ\_VMC\_00002169. Defendants’ technical documents include confidential source code that is available for inspection in the offices of Defendants’ outside counsel and public source code that is available at the links below:

<https://github.com/moby/moby/archive/refs/tags/v25.0.6.zip>

<https://github.com/containerd/containerd/archive/refs/tags/v1.7.20.zip>

September 12, 2024

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**CERTIFICATE OF SERVICE**

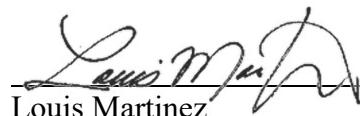
I hereby certify that, on September 12, 2024, a true and correct copy of the foregoing was served via email on the following counsel of record:

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